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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/666,619

09/17/2003

Jin Yang

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11/14/2008

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EXAMINER

PARIHAR, SUCHIN

ART UNIT

PAPER NUMBER

2825

MAIL DATE

DELIVERY MODE

11/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/666,619	Applicant(s) YANG, JIN	
	Examiner SUCHIN PARIHAR	Art Unit 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/18/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11, 12, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 6-10, 13-15, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This NON-FINAL office action is in response to application 10/666,619, appeal brief filed 8/18/2008. Claims 1-19 are currently pending in this application.
2. The non-final rejection dated 8/9/2007 of claims 1-19 has been withdrawn.
A new ground(s) of rejection has been made.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

4. **Claims 1-5, 11-12 and 16-17 are rejected under 35 U.S.C. 102(e)** as being anticipated by Kurshan et al. (US 6,311,293).

5. With respect to claims 1, 11 and 16, Kurshan teaches:

Generate (given a generator for the state space, Col 4, lines 45-50), from a first property (for a given property, Col 3, lines 55-65), a first assumption (set of assumable values, Col 3, lines 5-20) including a first state predicate (the system model's reachable states from a designated set of initial states, Col 2, lines 5-10);

generate (given a generator for the state space of the system model, Col 4, lines 45-50), for a model (of the system model, Col 4, lines 45-50), a first transition relation (a set of state transition relations, Col 4, lines 40-55) that includes the first state predicate (that for each state identifies the state or set of reachable states that can be reached from the initial state, Col 4, lines 40-55); and

reduce the first transition relation (reduce the model, i.e. transition relations are simplified, Col 4, lines 60-65) according to the first assumption (set of assumable

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values, Col 3, lines 5-20).

6. With respect to claim 2, Kurshan teaches:

wherein reducing the first transition relation reduces the size of the model

(reduce the size of the system model, Col 2 lines 25-35).

7. With respect to claim 3, Kurshan teaches:

wherein reducing the first transition relation reduces the computational complexity of evaluating the first property (reduction in the complexity of the tested system's model, Col 3, lines 55-65).

8. With respect to claim 4, Kurshan teaches:

wherein reducing the first transition relation reduces the number of variables in the model (a reduction in the complexity of the system's model which involves determining variables that do not change value, see Abstract).

9. With respect to claim 5, Kurshan teaches:

wherein reducing the first transition relation reduces the number of variables in the first transition relation (simplify the state transition relations, when a variable is found to be an unchanging constant, Col 4, lines 60-67).

10. With respect to claims 12 and 17, Kurshan teaches:

wherein the first assumption is produced from the structure of the first property (set of assumable values for that variable or input, Col 3, lines 5-20).

Allowable Subject Matter

11. Claims 6-10 and 13-15 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. With respect to claim 6, the prior art of record fails to explicitly teach: wherein the first assumption is generated from an implication structure of the first property.

13. With respect to claims 13, the prior art of record fails to explicitly teach:
means for propagating the first assumption according to a second property to generate a second assumption; and

means for producing, for a model, a transition relation that includes the reduced next state function.

14. With respect to claim 18, the prior art of record fails to teach:
instructions to cause the processing device to: propagate the first assumption to generate a second assumption according to a second state predicate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUCHIN PARIHAR whose telephone number is (571)272-6210. The examiner can normally be reached on Mon-Fri, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

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Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jack Chiang/
Supervisory Patent Examiner, Art Unit 2825

/Suchin Parihar/
Examiner, Art Unit 2825